

Applicants : Larry (NMI) DeKraker et al.
Appln. No. : 10/740,015
Page : 3

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-7 (canceled)

Claim 8 (currently amended): A mechanism comprising:

first and second members having a range of movement relative to one another, each member having a generally smooth curvilinear load bearing surface and a plurality of teeth adjacent and coextensive with the load bearing surface, wherein the load bearing surfaces are in contact [[to]] and transfer loads, ~~and wherein~~ while the teeth of the first and second members are in engagement, at least one of the first and second members having teeth arranged in an arc that extends less than three hundred and sixty degrees about an axis defined by the arc; and

a stop limiting an allowable range of movement of a selected one of the first and second members relative to the other one of the first and second members.

Claim 9 (original): The mechanism of claim 8, including:

a base; and wherein:

the first member is rotatably mounted to the base.

Claim 10 (original): The mechanism of claim 9, including:

an adjustment member movably engaging the base, the adjustment member engaging the first member such that movement of the adjustment member rotates the first member.

Claim 11 (currently amended): ~~The mechanism of claim 10, including:~~ A mechanism comprising:

a base;

Applicants : Larry (NMI) DeKraaker et al.
Appln. No. : 10/740,015
Page : 4

first and second members having a range of movement relative to one another, each member having a generally smooth curvilinear load bearing surface and a plurality of teeth adjacent the load bearing surface, wherein the load bearing surfaces are in contact to transfer loads, and wherein the teeth of the first and second members are in engagement, at least one of the first and second members having teeth arranged in an arc that extends less than three hundred and sixty degrees about an axis defined by the arc, and wherein the first member is rotatably mounted to the base;

a stop limiting an allowable range of movement of a selected one of the first and second members relative to the other one of the first and second members;

an adjustment member movably engaging the base, the adjustment member engaging the first member such that movement of the adjustment member rotates the first member;

a resilient member engaging the base and the second member and rotatably biasing the second member relative to the first member.

Claim 12 (previously presented): The mechanism of claim 11, including:

an output bracket that is movable relative to the base and connected to the second member for biasing an associated adjustable component of a seat; and wherein:

the stop comprises a cam member having a plurality of stop surfaces configured to engage the output bracket to limit movement of the output bracket relative to the base.

Claim 13 (original): The mechanism of claim 12, wherein:

the resilient member comprises a spring.

Claim 14 (currently amended): ~~The mechanism of claim 10, including:~~ A mechanism comprising:

a base;

first and second members having a range of movement relative to one another, each member having a generally smooth curvilinear load bearing surface and a plurality of teeth adjacent the load bearing surface, wherein the load bearing surfaces are in contact to transfer

Applicants : Larry (NMI) DeKraker et al.
Appln. No. : 10/740,015
Page : 5

loads, and wherein the teeth of the first and second members are in engagement, at least one of the first and second members having teeth arranged in an arc that extends less than three hundred and sixty degrees about an axis defined by the arc, and wherein the first member is rotatably mounted to the base;

a stop limiting an allowable range of movement of a selected one of the first and second members relative to the other one of the first and second members;

an adjustment member movably engaging the base, the adjustment member engaging the first member such that movement of the adjustment member rotates the first member;

a handle; and

a clutch frictionally interconnecting the handle to the adjustment member limiting the amount of torque that can be transmitted from the handle to the adjustment member.

Claim 15 (original): The mechanism of claim 14, wherein:
the adjustment member comprises a threaded rod.

Claim 16 (currently amended): ~~The mechanism of claim 8, wherein:~~ A mechanism comprising:

first and second members having a range of movement relative to one another, each member having a generally smooth curvilinear load bearing surface and a plurality of teeth adjacent the load bearing surface, wherein the load bearing surfaces are in contact to transfer loads, and wherein the teeth of the first and second members are in engagement, at least one of the first and second members having teeth arranged in an arc that extends less than three hundred and sixty degrees about an axis defined by the arc;

a stop limiting an allowable range of movement of a selected one of the first and second members relative to the other one of the first and second members; and wherein

the stop is adjustable and selectively varies an allowable range of movement of the second member relative to the first member.

Applicants : Larry (NMI) DeKraker et al.
Appln. No. : 10/740,015
Page : 6

Claim 17 (currently amended): ~~The mechanism of claim 8, including:~~ A mechanism comprising:

first and second members having a range of movement relative to one another, each member having a generally smooth curvilinear load bearing surface and a plurality of teeth adjacent the load bearing surface, wherein the load bearing surfaces are in contact to transfer loads, and wherein the teeth of the first and second members are in engagement, at least one of the first and second members having teeth arranged in an arc that extends less than three hundred and sixty degrees about an axis defined by the arc;

a stop limiting an allowable range of movement of a selected one of the first and second members relative to the other one of the first and second members; and

a housing adapted to mount the mechanism to a seating unit, wherein the first and second members are substantially enclosed by the housing.

Claim 18 (previously presented): A control mechanism for seating units, comprising:

a housing adapted to mount to a seating unit;

a compressible resilient member disposed in the housing;

a torque member defining an effective torque arm operably connected with the resilient member such that movement of the torque member varies the amount of compression of the resilient member, the torque member having a first curvilinear rolling bearing surface and a plurality of first teeth adjacent the rolling bearing surface;

an adjustment member movably associated with the housing and including a second curvilinear rolling bearing surface engaging the first curvilinear load bearing surface to transfer loads, the adjustment member including a plurality of second teeth rotationally engaging the first plurality of teeth and defining a fulcrum point at which the torque member rotates relative to the adjustment member, the adjustment member being movable relative to the housing to thereby shift the fulcrum point and adjust a length of the effective torque arm.

Applicants : Larry (NMI) DeKraker et al.
Appln. No. : 10/740,015
Page : 7

Claim 19 (previously presented): The control mechanism of claim 18, wherein:

the torque member includes first and second portions that together form an L-shape, with the first teeth and first curvilinear rolling bearing surface extending along the first portion.

Claim 20 (previously presented): The control mechanism of claim 19, wherein:

the resilient member comprises a spring;
the first portion includes an end engaging the spring.

Claim 21 (previously presented): The control mechanism of claim 20, wherein:

the adjustment member is pivotably mounted to the housing; and including:
an adjustment rod operably coupled with the adjustment member such that rotation of the adjustment rod pivots the adjustment member and shifts the fulcrum point.

Claim 22 (previously presented): An energy mechanism for seating units, comprising:

a housing configured to be mounted to a seating unit;
a compressible resilient member;
a torque member having an engagement portion engaging the resilient member to provide an output force for control of the seating unit;
an adjustment member engaging the torque member at a fulcrum point about which the torque member pivots;
the torque member defining an effective lever arm between the fulcrum point and the engagement portion; and wherein:
the fulcrum point shifts upon movement of the adjustment member to adjust a length of the effective lever arm without substantially changing the compression of the resilient member.

Claim 23 (previously presented): The energy mechanism of claim 22, wherein:

the torque member and the adjustment member each have a generally smooth curvilinear load bearing surface and a plurality of teeth adjacent the load bearing surface,

Applicants : Larry (NMI) DeKraaker et al.
Appln. No. : 10/740,015
Page : 8

wherein the load bearing surfaces are in contact to transfer loads, and wherein the teeth of the first and second members are in engagement to provide non-slip rotation.

Claim 24 (previously presented): The energy mechanism of claim 23, wherein:

the load bearing surfaces of the torque and adjustment members define an arc of constant radius.

Claim 25 (previously presented): The energy mechanism of claim 24, wherein:

the arcs each define an axis, and the load bearing surfaces extend less than three hundred sixty degrees about each axis.

Claim 26 (new): The mechanism of claim 8, wherein:

the load bearing surfaces form arcs that are generally parallel to the arcs of the teeth.